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## SOME NEW WESTERN HEMIPTERA

by E. P. VAN DUZEE

The following apparently new Hemiptera from western North America have come into the collection of the California Academy of Sciences within the past few years:

## Aradus leachi Van Duzee, n. sp.

Aspect of insoletus Van D., but larger with greatly thickened antennæ, the second segment of which is mostly pale. Length 5.5 mm .

Female. Blackish fuscous; segment II of antennæ pale yellowish shading to fuscous on basal third; membrane whitish at base, becoming pale fuscous at apex; corium with some of the cross-veins faintly pale; narrow hind edge of pronotum and apical nervure of corium tinged with castaneous; extreme apex of connexival segments and some of the granules greenish white; coxæ and extreme base and apex of femora and tibiæ touched with pale; claws pale; venter obscurely varied with castaneous.

Length of head equal to its width including eyes; preocular tubercles obsolete, postocular obtuse; impressed lines on vertex slightly oblique, evanescent posteriorly; antenniferous spines strong, without lateral teeth. Antennal segments II and III stout, much thicker than anterior femora; II one-third longer than III; IV much thinner, three-fifths as long as III; I exceeding middle of tylus. Pronotum shaped as in insoletus, angled either side just behind the middle; margin obscurely granulate and very feebly arcuate anteriorly, forming a right angle behind the eye; carinæ faint, the median straight, parallel and percurrent. Scutellum triangular, flat, the base not elevated; sides slightly elevated, apex upturned, concolorous. Elytra reaching genital segment, but little expanded at base as in insoletus. Abdomen moderately expanded, about as in insoletus. Bucculæ strongly elevated anteriorly. Rostrum attaining base of prosternum; margin of genital plates slightly sinuate, not contiguous at base of apical notch.

Holotype, female, No. 2515, Mus. Calif. Acad. Sci., taken by Mr. E. R. Leach, July 27, 1927, at 6000 feet, on Mount Lassen, California.

This most interesting species runs nearest to coarctatus in Parshley's key (Trans. Am. Ent. Soc., XLVII, 24, 1921), but the width of third antennal segment is but two-fifths of the distance between the eyes. It bears the same relation to the group of species having thick antennæ as does insoletus to those with thin antennæ. Disregarding the antennæ insoletus has sharper pronotal angles, a shorter rostrum, a broader and flatter scutellum, and the surface more uniformly dotted with pale granules. It gives me pleasure to dedicate this very distinct species to Mr. Leach, who has enriched the Academy collection with many interesting insects, during the formation of his collection of Coleoptera.

## Lygæus (Ochrostomus) fæderatus Van Duzee, n. sp.

Form and aspect of pyrrhopterus Stål, but more closely related to carnosulus Van D. and rubricatus Barb.; black, three large basal spots on pronotum, apex of scutellum and the elytra red; membrane black, bordered with white. Length 7 mm .
Pronotum with a slender but strongly raised collum; surface impunctate as in the allied species; the four transverse lines between the lobes deep; antennæ a little stouter than in carnosulus; segment II slightly longer than III. Elytral veins more lightly elevated than in carnosulus, about as in pyrrhopterus. Bucculæ shorter than in pyrrhopterus, attaining basal third of gula. Rostrum reaching to hind coxx, segment I passing base of head.
Color black, closely, minutely sericeous pubescent, especially below where the color becomes piceous, paler on the venter. Base of head with a small yellowish dot; collum sometimes tinged with red; posterior lobe of pronotum with three large clear red spots, nearly or quite confluent on basal margin, the lateral slenderly produced along the margin to the collum; scutellum red on apical third; elytra dull red, sometimes clouded with fuscous on clavus, apex of corium concolorous; white edge of membrane as wide as in carnosulus; beneath, with the acetabulx, trochanters, narrow posterior margin of pleurx and the buccule whitish; broad anterior margin of prosternum as far as the eye white or yellowish, sides of propleuræ posteriorly broadly red, genital segments deep black; antennal tubercles paler, the antennæ paler apically. Orifices black.

Holotype, male, No. 2516, and allotype, female, No. 2517, Mus. Calif. Acad. Sci., collected by E. P. Van Duzee, August

## 13, 1924, at Sabino Cañon, Santa Catalina Mountains,

 Arizona. Paratypes, six females same data and one female taken at Magna, Arizona, August 18, 1924.This species is related to rubricatus Barber, but seems to be sufficiently distinct. The prominent collum and concolorous corium will superficially distinguish the present species.

## Lygæus (Craspeduchus) defessus Van Duzee, n. sp.

Allied to uhleri, but with the pale markings less extended; blackish fuscous, spot on base of vertex, margins and median line of pronotum and costal margin of elytra rufous; bucculæ, margins of pleuræ and the abdomen pale, the apex of the latter black. Length 8 mm .

Form and size of uhleri, bucculæ narrower posteriorly, the margin almost rectilinear, not elliptical as in uhleri. Broad anterior margin of pronotum and median depressed transverse area coarsely punctured, the punctures obsolete on posterior lobe. Other characters essentially as in uhleri.

Color blackish fuscous; pale spot on base of vertex distinct; pale margins of pronotum less extended than in uhleri, narrow on hind edge and on the sides opposite the area of the callosities; median pale line subobsolete anteriorly; elytra black; scutellar margin of clavus more or less rufescent; costa red, broadly so at base narrowing posteriorly and becoming obsolete at one-fourth from apex; pale margin of membrane narrow; acetabulæ and pleural margins pale, more broadly so on propleuræ; orifices black; abdomen pale or rufescent; sixth ventral and genital segments black, as are the legs and antennæ. Vestiture of minute pale hairs, nearly or quite obsolete on pronotum, scutellum and elytra, longer on venter.

Holotype, male, No. 2518, and allotype, female, No. 2519, Mus. Calif. Acad. Sci., taken by Mr. J. R. Slevin, July 29, 1919, at Miraflores, Lower California.

This species, described from a single pair, may vary toward uhleri through the extension of the pale markings above, but the narrower bucculæ will at once distinguish the species.

## Key to the Western Species of Arphnus Stal

Tylus short, produced before the bucculæ for a distance scarcely more than half the length of the bucculæ; head, pronotum and abdomen blackish piceous. tristis n. sp.
Tylus longer, produced before the bucculæ for a distance fully equal to the length of the bucculæ; color paler, the head and pronotum sometimes piceous.
2. Tylus attaining middle of antennal segment II; median carina of pronotum obsolete behind the middle; membrane hyaline or faintly smoky; femora usually concolorous $\qquad$ coriacipennis Stål
-. Tylus attaining apical third of antennal segment II; membrane with a longitudinal median cloud; color pale, femora piceous $\qquad$ profectus n. sp.

## Arphnus coriacipennis Stål

This is a common species throughout California ranging north to northern Oregon near the coast. As found about San Francisco, the type locality, generally the head and pronotum are more or less piceous and the basal joint of the antennæ and the femora are concolorous or nearly so. Specimens from Mesa Grande, on the Russian River, California, are smaller and paler without the piceous shading, while others from San Diego County have the lower surface piceous or almost black. In this genus the insect seems to become pale under cool conditions, the reverse of what we usually find.

The following two forms should, perhaps, be considered as geographical races of this:

## Arphnus tristis Van Duzee, n. sp.

Size and form of coriacipennis, darker with shorter tylus. Length 4 to 4.75 mm .

Tylus viewed from above tapering to a blunt apex, the sides scarcely parallel as it is in coriacipennis, its apex attaining basal third of antennal segment II; surpassing the bucculæ by a distance equal to about half the length of the bucculæ; sides of the pronotum rectilinear, not obviously carinate anteriorly. Lower surface of head densely sericeous pubescent; anterior femora strongly incrassate, abruptly narrowed at base; vertex minutely but obviously transversely wrinkled, with a few scattering punctures.

Color piceous black, sometimes paler on disk of pronotum and base of antennal segment IV; segments II, III, and lower surface of I, base and apex of femora, tibiæ, tarsi except the claws, and portions of the genital segments piceo-ferruginous; elytra soiled testaceous, sometimes darker on disk; tip of clavus and corium often with a dark point.

Described from two males and four females swept from weeds along the bank of Truckee River, two miles east of Sparks, Nevada, June 28, 1927, and two females from near the same river between Sparks and Reno, June 27.

Holotype, male, No. 2520, and allotype, female, No. 2521, Mus. Calif. Acad. Sci., taken by E. P. Van Duzee, June 28, 1927, near Sparks, Nevada.

Arphnus profectus Van Duzee, n. sp.
Narrower and paler than coriacipennis Stål, with the tylus strongly produced. Length 4 to 5 mm .
Tylus attaining apical third of antennal segment II; surpassing the bucculæ by more than the length of the bucculæ. Its sides parallel nearly to the obtuse apex; sides of pronotum feebly bisinuate, obtusely carinate anteriorly; median carina percurrent or nearly so; lower surface of head and the pleuræ in part short, white-pubescent.

Color ferrugino-testaceous, paler on the elytra; antennal segment IV, except at base, and femora, except base and apex, black or nearly so; median line of pronotum, scutellum and claval commissure distinctly pale; membrane hyaline with a distinct median cloud; tip of clavus and corium with a distinct brown dot.

Described from three males and four females taken by Mr . J. O. Martin and the writer on Laguna Mountain, San Diego County, August 23 and 24, 1924, at 6000 feet elevation. One of the females has the antennæ scarcely exceeding the tylus, and segments II, III and IV connate, forming a black-tipped club, but it is otherwise normal.

Holotype, male, No. 2522, and allotype, female, No. 2523, Mus. Calif. Acad. Sci., taken by J. O. Martin, August 24, 1924, on Laguna Mountain, California.

## Rhabdocephala Van Duzee, n. gen.

Related to Pyrops Spinola, but the elytra not at all Valvata, their base not reticulated and the hind tibiæ but trispinose.

Head produced in a long porrect subterete process with eight obscure carinæ, three dorsal, three frontal and one lateral on either side; a little widened, flattened, bluntly triangular and carinate at apex. Vertex, pronotum and scutellum feebly transversely convex, the last two very obscurely tricarinate. Clypeus feebly convex, sharply carinate at sides. Base of head armed with a postocular callus. Rostrum attaining apex of hind coxæ. Elytra four times as long as wide, lanceolate, obliquely truncate at apex; venation strong and simple at base, reticulated at apex; radius simple, medius forked near base, cubitus forked before the middle, its outer branch twice forked; claval veins united before their junction with the commissure; reticulations of anal area of hind wings coarse. Hind tibiæ with three spines, one subbasal and two beyond the middle.

Type of genus Rhabdocephala brunnea Van D.

## Rhabdocephala brunnea Van Duzee, n. sp.

Cephalic process as long as from base of pronotum to tip of claval veins, three times as long as the width across the eyes, distinctly wider across the expanded tip than immediately before the eyes, carinate apex bluntly angled, median dorsal carina obsolete at base and apex, median frontal carina obsolete at base, the lateral frontal carinæ forming the marginal carina of the expanded tip; lateral carinæ becoming obsolete at apex. Apical margin of pronotum nearly truncate, hind margin feebly emarginate; scutellum a little longer than pronotum. Basal two-thirds of elytra with reticulations very obscure. Male plates oblique, their depressed sides triangularly widened at apex, the narrow ligulate apex of the stiles protruding on either side, their tips recurved.

Color testaceous brown, the head, pronotum and scutellum faintly tinged with green and obscurely varied with sanguineous; elytra with an oblique apical fuscous cloud, the veins pale; wings enfumed, the costa and veins at base paler, basal area marked with red; abdomen darker; apex of tergum pale, its base and the edge of the segments reddish; legs pale, irrorate with brown; hind tibiæ pale; pleural flaps pale below. Length 12 to 17 mm .

Holotype, male, No. 2524, and allotype, female, No. 2525, Mus. Calif. Acad. Sci., taken by E. P. Van Duzee, August 11, 1924, sixteen miles south of Tucson, Arizona, along the road to Nogales. Paratypes two males and two females taken with the types and one female taken at San Xavier Mission near Tucson, August 12, 1924.

I can find no established genus that will include this interesting fulgorid. Its smooth cephalic process and different venation will serve to separate it at once from Dr. Ball's genus Scolopsella to which it is perhaps most closely related in our own fauna. On some of the males the elytra are covered with a whitish bloom indicating it was their breeding season. They were found on a narrow-leaved composite plant which, by its bright green color, was very conspicuous among the whitish desert vegetation about it.

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